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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/530,894	10/12/2005	Paul Wight	056258-5101	3209
9629 7590 01/22/2009 MORGAN LEWIS & BOCKIUS LLP 1111 PENNSYLVANIA AVENUE NW WASHINGTON, DC 20004				
EXAMINER				
MARTIN, LAURA E				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/530,894

**Applicant(s)**

WIGHT, PAUL

**Examiner**

LAURA E. MARTIN

**Art Unit**

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 October 2008.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9, 12, 14 and 15 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-9, 12, 14 and 15 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/S5108)  
Paper No(s)/Mail Date 4/11/05  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Information Disclosure Statement***

Acknowledgement is made of the information disclosure statement (IDS) submitted on 4/11/05. The submission is in compliance with the provisions of 37 CFR 1.97.

### ***Specification***

The abstract of the disclosure is objected to because it contains the word "comprising". Correction is required. See MPEP § 608.01(b).

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 9, 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toyoda et al. (JP 59-53565 A).

**Toyoda et al. disclose the following claim limitations:**

As per claim 1: a process for printing a porous substrate comprising ink jet printing a dye and casein onto the substrate to give a print in which the dye and casein are in contact with each other wherein the casein is applied as a composition comprising a liquid medium, the liquid medium comprises water and a water-miscible organic solvent, the weight ratio of water to water-miscible organic solvent is from 95:5 to 70:30 and the dye has a solubility in the liquid medium of at least 10% by weight at 20°C (abstract). While Toyda et al. do not specifically disclose the dye and casein being in contact with each other, It would have been obvious to one of ordinary skill in the art at the time of the invention that if the two ingredients were in the ink composition, they would be in contact.

As per claim 4: an ink comprising the casein and dye is printed onto the substrate (abstract).

As per claim 9: the casein is substantially free from di and trivalent metal ions (abstract – no mention of di or tri-valent metal ions).

As per claim 12: a process wherein the casein and dye are applied to the substrate in the form of an ink comprising 0.1 to 10 parts casein calculated on a 100% solid basis; 0.1 to 15 parts dye; and 99.8 to 74.9 parts of a liquid medium; wherein the liquid medium comprises water and a water-miscible organic solvent, the weight ratio of water to water-miscible organic solvent is from 95:5 to 70:30 and the dye has a solubility in the medium of at least 10% by weight at 20°C, all parts are by weight, and the casein, dye and liquid medium add up to 100 parts (constitution), and the ink comprises less than 0.1% by weight of di and tri-valent metal ions (no mention of di or tri-valent metal ions).

While Toyda et al. do not specifically disclose the dye and casein being in contact with each other, It would have been obvious to one of ordinary skill in the art at the time of the invention that if the two ingredients were in the ink composition, they would be in contact.

As per claim 14: a method of improving the ozone fastness of a dye which comprises contacting the dye with casein. While Toyda et al. do not specifically disclose the dye and casein being in contact with each other, It would have been obvious to one of ordinary skill in the art at the time of the invention that if the two ingredients were in the ink composition, they would be in contact. If they are in contact, the ozone fastness of the dye will improve.

Claims 2, 3, 5, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toyoda et al. (JP 59-53565 A) in view of Tomioka et al. (US 2003/0103121 A1).

**Toyoda et al. disclose the following claim limitations:**

The ink taught in claim 1.

**Toyoda et al. do not disclose the following claim limitations:**

As per claim 2: the dye and casein are printed onto the substrate separately.

As per claim 3: the dye and casein are in printed from different ink jet cartridges or are printed from separate chambers of one ink jet cartridge.

As per claim 5: the casein is printed onto the substrate in a first step and a composition comprising casein and dye is printed onto the substrate in a second step to substantially the same area as the casein.

As per claim 6: the substrate has high levels of voids within its structure.

**Tomioka et al. do not disclose the following claim limitations:**

As per claim 2: the dye and casein are printed onto the substrate separately [0167] and [0198].

As per claim 3: the dye and casein are in printed from different ink jet cartridges or are printed from separate chambers of one ink jet cartridge [0167] and [0198].

As per claim 5: the casein is printed onto the substrate in a first step and a composition comprising casein and dye is printed onto the substrate in a second step to substantially the same area as the casein (figure 14 A, element 1406 and figure 14 B, element 1413).

As per claim 6: the substrate has high levels of voids within its structure [0073].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink set taught by Toyota et al. with the disclosure of Tomioka et al. in order to create a high quality image at a high print speed.

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Toyota et al. (JP 59-53565 A) in view of Malhorta et al. (US 5500668 A).

**Toyota et al. disclose the following claim limitations:**

The ink taught in claim 1.

**Toyota et al. do not disclose the following claim limitations:**

As per claim 7: the substrate comprises filler and binder in a weight ratio of at least 2:1.

As per claim 8: the filler is clay, calcium carbonate, magnesium carbonate, silica, zeolite, alumina, or a combination of two or more thereof.

**Malhorta et al. do not disclose the following claim limitations:**

As per claim 7: the substrate comprises filler and binder in a weight ratio of at least 2:1 (column 24, lines 43-65 and column 23, lines 6-12).

As per claim 8: the filler is clay, calcium carbonate, magnesium carbonate, silica, zeolite, alumina, or a combination of two or more thereof (column 24, lines 43-67).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink set taught by Toyoda et al. with the disclosure of Malhorta et al. in order to improve print through and enhance color.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Toyoda et al. (JP 59-53565 A) in view of Adachi et al. (US 2002/0158952 A1).

**Toyoda et al. disclose the following claim limitations:**

As per claim 15: the casein and dye are applied to the substrate in the form of an ink comprising: (i) 0.1 to 10 parts casein calculated on a 100% solids basis; (ii) 0.1 to 15 parts dye; (iv) a liquid medium; wherein the liquid medium comprises water and a water-miscible organic solvent, the weight ratio of water to water-miscible organic solvent is from 95:5 to 70:30 and the dye has a solubility in the liquid medium of at least 10% by weight at 20°C, all parts are by weight, (i)+(ii)+(iii)+(iv) add to 100 parts (constitution), and the ink comprises less than 0.1% by weight of di and tri-valent metal ions (no mention of di or tri-valent metal ions). While Toyda et al. do not specifically

disclose the dye and casein being in contact with each other, It would have been obvious to one of ordinary skill in the art at the time of the invention that if the two ingredients were in the ink composition, they would be in contact.

**Toyoda et al. do not disclose the following claim limitations:**

As per claim 15: (iii) 0.0001 parts to 0.1 parts of 1,2-benzisothiazolin-3-one.

**Adachi et al. do not disclose the following claim limitations:**

As per claim 15: (iii) 0.0001 parts to 0.1 parts of 1,2-benzisothiazolin-3-one [0054].

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the ink set taught by Toyoda et al. with the disclosure of Adachi et al. in order to produce an ink with less clogging and higher quality.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAURA E. MARTIN whose telephone number is (571)272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/L. E. M./  
Examiner, Art Unit 2853

Laura E. Martin

/Manish S. Shah/  
Primary Examiner, Art Unit 2853